

March 20, 2007

California Energy Commission
Docket Office
Attn: Docket 06-AFP-1
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

Docket: 06-AFP-1

Re: Alternative Transportation Fuels Plan Full Fuel Cycle Analysis Workshop

Dear Sir or Madam:

Energy Independence Now (EIN) would like to thank you and your colleagues at the Energy Commission and TIAX for the time you committed to briefing us and our colleagues in the environmental community on the AB1007 Life Cycle Analysis, and affording us the opportunity to provide feedback and input on the report. We recognize and respect the limited time and resources you have to commit to this task, and, therefore, greatly appreciate such opportunities.

This letter is to elaborate on some of the points raised in that meeting, and others for which there was not time to discuss. These comments are organized to follow the order of the report rather than adhere to any particular fuel or vehicle category.

1. Biodiesel Feedstocks: Our primary concern with the report is that the number and types of biodiesel feedstocks included is too limited. We would like to see the inclusion and analysis of a broader array of feedstocks that have the potential to gain significant market share in the California biodiesel market. For example, biodiesel made from waste-greases are not in the report even though they are already in greater use than Malaysian palm oil, which is in the report. Those feedstocks we would like to see added to the report include: canola, mustard, sunflower, safflower, cottonseed, waste vegetable oil, and tallows. Time permitting (or in future revisions), we believe it would also be helpful if experimental feedstocks are included such as algae-biodiesel, and jatropha.
2. Sustainability Criteria: We believe that the current scope of the analyses is too limited to emissions and energy use. We request the inclusion of other, equally important, life-cycle, multi-media impact assessments that gauge the total environmental impact for each fuel. These impacts should include: acreage (oil yield per acre), water-use, fertilizer and pesticide use, byproducts of production, propagation rates of non-native plant species, resource exhaustion rates, and land conversions. While it seems somewhat exhaustive, these are really no more than standard components of an EIR/EIS as required by CEQA/NEPA, and most (if not all) of the information is readily available. EIN is able to readily furnish third-party data sources on many of these items.
3. Vehicle Production and Decommissioning - Building on the previous point, consideration should be given to life-cycle impacts of the production and deconstruction of vehicles and their components. In some instances - particularly with regard to certain battery types or the mining of precious metal catalysts - these impacts can be quite significant.
4. Diesel LDV Mileage Estimates: In the February 27 meeting, I had asked if you could explain how or from where the mileage estimate for light-duty diesel vehicles was derived. The reason I asked is because US EPA cites average diesel LDV mileage around the 40 Hwy/32 City range, while the 1007 report puts the mileage in the low 30s. The response I received was that the 1007 report is more indicative of real-world performance. While EIN agrees that EPA's estimates are typically high, can you provide us the means you used to compensate for that? We believe this sector is important to

pay attention to because of statements from major auto manufacturers regarding their ability to produce 50-state diesels.

5. Inclusion of Passenger Diesels in Table 2.5 - In Table 2.5 (page 2-8), there is no diesel mid-size passenger car listed in the baseline catalog, though there is a diesel LDV later in Figure 2.2 and section 3.1.2. As stated above, most of the major auto manufacturers have announced intent to introduce 50-state passenger diesels to the US market, and many medium-duty diesel trucks are already permitted for sale in California. EIN believes it is important for this report to establish a baseline for these vehicles and consider this segment in the analysis. This should, then, also apply to the various biodiesel categories as the diesel vehicles will be biodiesel-capable.
6. Inclusion of Electric Buses in Table 2.5 - EIN would like to see electric buses included in the Urban Bus column of Table 2.5. Pure electric buses are in active revenue service across the state including in the Santa Barbara Metropolitan Transit District, University of California - Berkeley, and California State University - Channel Islands. Numerous other transit districts have expressed intent to acquire electric buses.
7. Section 3.3 - Biodiesel
 - a. Inclusion of 5% Biodiesel Blends in Section 3.3 - Section 3.3 should evaluate the impact of B5 biodiesel blends. B5 is a level of biodiesel blending universally accepted by engine manufacturers (though some manufacturers approve the use of richer biodiesel blends). Until this changes, all incentives and regulations will need to be made in light of this threshold. Therefore, understanding the life-cycle impact of this blend is crucial to the formulation of incentives and regulations substantiated by the AB1007 report.
 - b. Factor in Pipelined Biodiesel - Pipelined biodiesel should be included in the evaluations because it is highly likely to be a commercial delivery method in the scenario years. Already several companies are demonstrating the commercial viability of pipelining low-blends of biodiesel, and there is obvious effort and dollars being invested in pipelining biodiesel. Because of this, and since some of the other fuel pathways accommodate pipelining, it is reasonable to include pipelined biodiesel in this analysis. Advances in pipelining biodiesel should also be noted in Section 4.5 - Effects of Scenario Year.
 - c. Table 3-10 (page 3-18) "Pollution Impacts of Biodiesel Vehicles - B20"
 - i. In the first bullet in "Criteria Pollutants," we would prefer to see the word "Modest" removed. Many would consider a 10% reduction of PM, 21% HC reduction, and 11% CO reduction substantial. Others may object, but since there is no qualification for the word "Modest," it would be best to remove it in order to prevent a subjective analysis of the reductions.
 - ii. In the discussion of the pollution impacts of biodiesel vehicles using B20, it should be noted that the portion of particulate matter emissions attributable to biodiesel is different from the PM from the petroleum portion. Biodiesel PM has different physical properties that make it soluble and has been shown to enhance performance of diesel particulate filters. These are points worthy of mention.
 - iii. It should also be noted in the "Multi-Media Impacts" portion that biodiesel is non-toxic.
 - d. B100 - It is EIN's belief that there is benefit to evaluating B100 in order to draw comparisons to pure forms of petroleum diesel and Fischer-Tropsch diesel, which are evaluated in the report.
8. Section 3.7 - Hydrogen
 - a. 100% Renewable Hydrogen: The report should include an analysis of hydrogen produced using 100% renewable power. Such stations already exist or are

- under construction in California, including Honda's Torrance facility, AC Transit in Emeryville, Shell Hydrogen in Santa Monica, California State University - Los Angeles, and the Schatz Energy Research Center in Humboldt.
- b. Include Hydrogen Compliant with SB1505 (2006) - Hydrogen that meets the requirements established in Senate Bill 1505 should be evaluated as those requirements are now California law, and are also the goals of the California Hydrogen Highway Network. SB1505 states that all hydrogen produced and/or distributed from state-funded facilities must 1) reduce greenhouse gas emissions by 30% relative to gasoline, 2) be derived from at least 33.3% renewable sources, and 3) reduce well-to-tank NOx + ROG emissions by 50%. These provisions will apply to all hydrogen production and/or distributed in the state once total statewide throughput exceeds 3,500 metric tons per year.
 - c. Evaluate Hybrid Fuel Cell Vehicles - Hybrid Fuel Cell Vehicles (HFCVs) should be used in this section's analysis. Not only are HFCVs already operating on California's roads, but also most indications are that future fuel cell vehicle models will incorporate robust hybrid drive systems.
9. HCNG Blends - The report should include an analysis of fuels and vehicles using a blend of hydrogen and natural gas (HCNG). There are already instances of this fuel blend in use in California, nationwide, and worldwide. In California, SunLine Transit in Palm Springs and the University of California-Davis both use a 70% CNG/30% H₂ blend in internal combustion engine transit buses, and the Los Angeles County Metropolitan Transit Authority and South Coast Air Quality Management District will be demonstrating 2 HCNG buses in the Authorities' natural gas fleet.
 10. PM Emissions for Renewable EV - In Figure 3-21 (page 3-26), "Criteria Pollutant Emissions for Electric Vehicles - can you please explain why there are particulate matter emissions for "Electricity, Renewable, No Combustion: EV"?"
 11. Figure 4.1 (Page 4-6) "Urban California Weighted Air Toxics Emissions for New Passenger Car Vehicles" - This chart should include renewable hydrogen fuel cell vehicles, hydrogen internal combustion engine vehicles, biodiesel-fueled vehicles, gasoline hybrids, and pure battery-electric vehicles as they are all vehicles operating on California's roads today.
 12. Section 4.4 (Page 4-6) "Effects of Scenario Year"
 - a. As noted in points above, this section should also include: pipelined biodiesel, 50-state diesel vehicles.
 - b. Again, the word "Modest" when used to describe anticipated improvements in hydrogen technology is not appropriate. Both hydrogen fuel cells and production technologies have demonstrated improvements in efficiencies and cost that could just as easily be considered remarkable when compared with other fuel and vehicle technologies. Therefore, the word "Modest" should not be used unless accompanied by a qualifier.
 13. Section 5 "Conclusions"
 - a. Section 5.1 "Energy Input and GHG Emissions Conclusions"
 - i. Placement of Biofuels Rankings - Biofuels that are included in the 1007 report should be included in the rankings for both light- and heavy-duty applications on page 5-2, rather than have them stand-alone as they do in point 7 (page 5-3). Combining biofuels in with all of the other evaluated fuels allows for cross-fuel/cross-platform comparisons. However, there is value in retaining the language prefacing biofuels in point 7. Perhaps that is best placed in the language introducing the light- and heavy-duty rankings back on page 5-2.

- ii. Clarification of types of fuels in biofuel rankings - For the "Diesel Vehicles" fuel rankings in Section 5.1 (page 5-3) there should be clarification of the concentrations of each of these fuels. For example, the entire report does not evaluate B100 from soybeans, so the soybean biodiesel listing and ranking in Section 5.1 should state what concentration it is referring to.

Again, EIN wishes to thank you and your staffs for affording us this opportunity to provide input. The AB1007 report will be important not just in meeting the requirements of the original legislation, but - since California is a recognized global leader in the development and adoption of advanced fuel policies - this report will also influence policy beyond our state and nation. We greatly appreciate the work you have done to date, are mindful of the constraints you are operating within, and look forward to working with you and assisting in the development of this important report when and where we can.

Thank you,



Rick Margolin
Associate Director